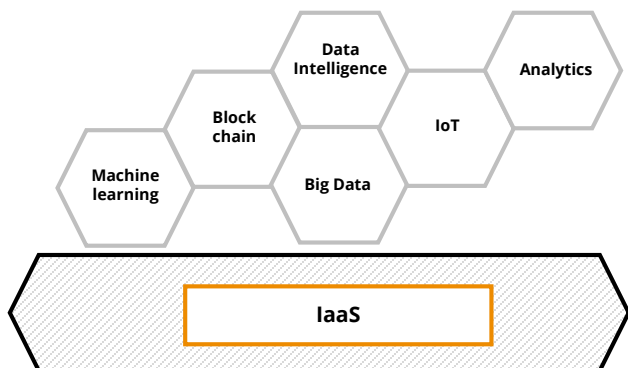


## SAP Application Server Autoscaling



The Deloitte and Amazon Web Services (AWS) relationship brings together experience in SAP HANA, industry knowledge, and solution architecture to implement auto-scaling solutions for the enterprise.

### Business Driver

SAP NW AS-ABAP application servers are provisioned up front based on workloads anticipation during peak periods to meet the demand, resulting in ~40% to 60% available capacity utilization per month. The remaining capacity is sitting idle driving the support and maintenance cost with no value adds. Auto provisioning and decommissioning of application servers on demand reduces the operational cost significantly

### Solution Overview

Deloitte's SAP App Server autoscaling built on top of AWS Autoscaling Framework is designed to provide fully automated provisioning and decommissioning of SAP Application servers and optimization of resources based on demand in a pay-as-you-go subscription model.

### FEATURES

#### Exposed SAP-specific workload metric through RESTful APIs

- Odata services to collect SAP work process utilization, memory, number of dialog and background work process and number of active users
- Odata services to register and unregister the application server

#### AWS API Gateway

- Consumes RESTful services with SAP-specific workload custom metrics
- Consumes RESTful services to register and unregister an application server on demand

#### AWS Lambda Functions

- Implements Autoscaling custom metrics

#### AWS Autoscaling and Cloud Watch Alarms

- Launch configuration with SAP App Server AMI
- Scales up and down based on SAP-specific custom metrics triggered by AWS Cloud Watch alarms

#### Highly Available, Scalable and Fault Tolerant

- Built on AWS infrastructure, taking full advantages of the HA, Scalable and Fault-tolerant infrastructure offered by AWS



### VALUE LEVERS:

- ✓ Scalable-leverages SAP-specific metrics to scale application servers.
- ✓ Elastic-scales horizontally up and down on demand
- ✓ < 5 mins to launch and terminate a new app server on demand
- ✓ Prepackaged, ready to deploy in < 30 mins
- ✓ Pay per use hourly



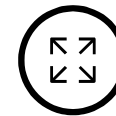
Cost

- Designed for cost efficiencies
- On demand
- Pay per use



Speed and Agility

- Rapid provisioning and orchestration
- Pre-packaged deployment templates and scripts



Scalable and Elastic

- Launches new app servers on demand
- Terminates app servers as demand decreases
- Scales horizontally



AWS API Gateway Integration

- Integrates AWS auto scaling with SAP NW AS-ABAP; allows auto scaling up or down horizontally

